

Table 2. Rationale for use of indicators in water-resource-quality-monitoring programs for meeting water-management objectives relevant to selected surface water uses. These are status and trends indicators meant to illustrate the suitability of a water resource for use by a management objective rather than demonstrate the effects of a particular management objective on that water resource—Continued

Categories of indicators	Human health and aesthetics		Ecological condition		Economic concerns		
	Consumption of fish, shellfish, and wildlife	Public water supply and food processing	Recreation: Boating, swimming, and fishing (including catchability) ¹	Aquatic and semi-aquatic life, protected species and aquaculture	Industry: Makeup and cooling water, and other types of water	Transportation and hydropower	Agriculture and fisheries
Part 2—Indicators of chemical response and exposure							
Oxygenation: Dissolved oxygen, BOD, benthic oxygen demand, redox potential of sediment, reaeration potential, assimilative capacity.		<i>Oxidation state affects processing techniques and palatability due to metallics and organics.</i>	Respiration of fish. Anaerobic water is unaesthetic [31].	Respiration requires oxygen. Sediment redox affects toxicity, benthic community [36].	Oxygen alters utility of water for waste discharge.		
Ionic strength: pH, hardness, alkalinity, acid neutralizing capacity, salinity, conductivity, total dissolved solids.	Ionic strength and pH affect availability of chemicals.	Salinity and pH affect corrosiveness. Salinity alters potability and affects treatment.	<i>Extreme pH irritates eyes. Ionic strength affects life and chemical processes including toxicity</i> [16].	Ionic strength affects life, toxicity, and chemical processes. Hardness and pH alter habitat suitability [16].	<i>Salinity and pH affect corrosiveness and utility for cleaning and textile industry. Solids accumulate on equipment.</i>	Density influences barge loading capacity. pH affects corrosion of turbines.	Salinity affects stockpiles, dewatering, and utility. Alters utility [31].
Nutrients: Nitrogen phosphorus.		Influences algal growth thus potability and impingement on intake screens [31].	<i>Affects fish biomass, phytoplankton and macrophyte growth</i> [31].	Affects productivity, toxicity and community structure [31].			
Potentially hazardous chemicals in water.	<i>Affects bioaccumulation by food organisms</i> [33].	Human toxicity [1].	Toxic to swimmers.	Toxic to aquatic life [16, 36].	<i>Affects fitness for chemical industry.</i>		Affects soil and groundwater
Odor and taste, unaesthetic chemicals.	<i>Odor in fish unattractive to consumer.</i>	Affects palatability.	Unattractive to user of water.	Alters aquaculture product marketability.			